

## Sustainable Palm-Based Agrofuels? Current Strategies and Problems to Guarantee Sustainability for Agrofuels within the EU

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## **Policy Paper**

**November 2011**

# **Sustainable Palm-Based Agrofuels? Current Strategies and Problems to Guarantee Sustainability for Agrofuels within the EU**

**Melanie Pichler<sup>1</sup>**

Die Nutzung von Treibstoffen aus Pflanzen wie Palmöl, Raps, Soja, Zuckerrohr, Weizen etc. (Agrartreibstoffe) wird in der EU seit der Jahrtausendwende systematisch verfolgt und seitdem wird auch erhebliche Kritik an dieser Politik laut. Umwelt- und Menschenrechtsgruppen sowie ExpertInnen kritisieren katastrophale Folgen für Mensch und Umwelt (Abholzung von Regenwald, Verlust von Biodiversität, Landkonflikte etc.), die die erwarteten CO<sub>2</sub>-Einsparungen ins Gegenteil verkehren und soziale Ungleichheit und Marginalisierung verstärken. Der Artikel beschäftigt sich mit den durch diese erhebliche Kritik ausverhandelten Nachhaltigkeitskriterien für Agrartreibstoffe auf EU-Ebene und diskutiert zentrale Probleme dieser Kriterien speziell an der Palmöl- und Agrartreibstoffproduktion in Südostasien (Malaysia und Indonesien). Zentrale Bereiche ökologischer und sozialer Nachhaltigkeit können durch das derzeitige Zertifizierungssystem nicht erfasst werden und Grundprobleme im Transportbereich werden nicht infrage gestellt.

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## Introduction

Since the turn of the millennium, agrofuels<sup>2</sup> have been a major focus of the EU's energy policy with an aim to reduce the negative environmental impact of fossil fuels and meet the Kyoto targets with regard to CO<sub>2</sub> emissions. However, with the current obligation of a 10% blend with agrofuels by 2020, experts highlight a possible adverse impact of the policy. As agrofuels are land-based resources, the EU cannot meet the mandatory blending with domestic production and therefore has to import feedstock or processed agrofuels from other countries, mainly from Latin America, South East Asia, and the US (European Commission 2008). This situation raises major questions about the so-called "land footprint" of the EU. The land footprint is a term within the ecological footprint debate which is prominently used to illustrate sustainability issues. The ecological footprint measures the area of land and water used by individuals, cities, nations etc. to produce the resources they consume (energy, housing, food etc.) and relates them to the planet's ecological capacity to regenerate. Globally, some countries countervail their excessive resource use through imports from other countries and therefore externalize environmental problems.

Even without the use of agrofuels on a large scale, Europe has been the continent most dependent on imported land— for food, feed and forest products alike. Accordingly, in 2004 *"nearly 60% of the land used to meet Europe's demand for agricultural and forestry products [came] from outside the continent"* (FoE 2011). Whereas updated figures on this global land footprint are still missing, the increasing use of agrofuels could even worsen the situation. With regard to agrofuel imports, the EU estimates that 32 to 64% of all the agrofuels have to be imported, whereas this figure is even higher for biodiesel with 50 to 80% (European Commission 2008: 14).

This additional pressure on land through plant-based fuels has resulted in large-scale deforestation of primary forests (Fargione 2008), a rise in food prices (Mitchell 2008) as well as the eviction of local communities and conflicts over land rights (Marti 2008)<sup>3</sup>, especially in the global South. To minimize the environmental and social impacts of agrofuels, the EU has recently agreed on sustainability criteria for feedstock and processed agrofuels.

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<sup>2</sup> Agrofuels are plant-based fuels to replace fossil energy from oil or gas which can be produced from the esterification of vegetable oil, e.g. palm oil, rape seed, soybean etc. (biodiesel to replace diesel) or from the fermentation of plant starches, e.g. sugar cane, corn, wheat (ethanol to replace gasoline).

<sup>3</sup> This problem especially holds true for countries with a high proportion of communities organized by customary law in contrast to individual property rights on land.

In the following, I sketch the agrofuel policy of the EU and refer to current attempts to deal with sustainability concerns. I focus on challenges for these criteria in general as well as for the implementation in the form of certification bodies. A regional example for my remarks is South East Asia. Indonesia and Malaysia are leading producers and exporters of palm oil which is currently the cheapest feedstock for the production of biodiesel. With an ever expanding large-scale production, the two countries account for 90% of the global palm oil production and have expanded their biodiesel capacities significantly in recent years (Pichler 2010).

### **EU Agrofuel Policy of the Role of South East Asia**

The EU has systematically discussed the use of agrofuels as a partial substitution of fossil fuels in the transportation sector since the turn of the millennium. The *Green Paper — Towards a European strategy for the security of energy supply* sees agrofuels as an important source to guarantee better security in energy supply and thus reduce the dependence of oil and gas imports. Furthermore, they shall help to reduce greenhouse gas emissions and create jobs in rural areas (European Commission 2001). In line with this, the EU member states agreed upon the biofuel directive in 2003, specifying a 5.75% blending target for agrofuels by 2010 (EU 2003). According to the directive, “*the transport sector accounts for more than 30% of final energy consumption in the Community and is expanding*” (EU 2003), making it a major driver for the anthropogenic climate change. In general, agrofuels were classified to be carbon neutral as the renewable fuel only emits CO<sub>2</sub> that has been bound during the life cycle of the plant.

Shortly after the release of the biofuel directive, scientists as well as human rights and environmental NGOs have passed criticism on the naïve assumptions of general carbon neutrality of agrofuels, especially on imported feedstock like palm oil, soybean, sugar cane etc. With the rapid expansion of oil palm plantations in South East Asia, especially in Indonesia, the region has become a focus of such criticism, mainly related to the accusation of massive deforestation for plantation purposes. In Indonesia, the production of palm oil more than tripled from 6.8 million tonnes in 2000 to 21.9 million tonnes in 2010 (FAO 2011, IPOB 2011). By 2020, the emerging country aims to expand its production to 30 million tonnes (interview with Indonesian Biofuels Producer Association, 05/01/09). Similarly, Malaysia saw a production increase from 10.8 million tonnes in 2000 to 17 million tonnes in 2010 (FAO 2011, MPOB 2011). With regard to land area, in 2010 8.1 million hectares of land in Indonesia were planted with oil palms (IPOB 2011), an area that is equivalent to the total area of Austria. Even if currently by far most of the palm oil is used in the food sector as well as for cosmetics, a rising proportion of agrofuels increases the demand for cheap oil crops and boosts the production, especially

in Indonesia<sup>4</sup>. According to recent data from Oxfam, in 2010 the EU imported 496,151 tonnes of biodiesel from Indonesia and 78,352 tonnes from Malaysia. However, the real amount of imports from South East Asia is difficult to calculate and may exceed these figures. On the one hand, Indonesia and Malaysia export most of the palm oil as Crude Palm Oil (CPO) which is later processed in the target country, i.e. the EU or the US, to biodiesel. On the other hand, so-called indirect imports are rarely taken into calculation: As the EU goes ahead and uses large amounts of its domestic rapeseed production for energy purposes, the union has to import the margin for their food and feed production from other countries. The European Commission therefore states that *“if we assume that people and animals do not eat less because of biofuels targets, this would be replaced by imported vegetable oil and oilseeds, especially palm oil. These are therefore indirect imports which result from biodiesel production”* (European Commission 2008: 28).

Despite the scientific facts and global movements against the mandatory blending targets of the biofuel directive, the EU resolved upon a follow up directive in 2009, thus ignoring to a great extent the negative social and environmental impacts of agrofuels. The *Renewable Energy Directive* (RED) dictates a 10% mandatory blending of fossil fuels with renewable energy sources by 2020 (EU 2009). Although second generation agrofuels<sup>5</sup> and other forms of renewable energy are also creditable against the target, plant-based agrofuels (first generation) will be the major source for the next years to come. Whereas scientists, human rights and environmental activists have failed with their demand to drop the binding blending quota or at least reducing it substantially, the EU made a concession with regard to sustainability. Thus, sustainability criteria were included in the directive that should lead to a major reduction of negative environmental and social impacts. The sustainability criteria have especially exacerbated the tax relief for palm-based biodiesel and have led to enraged reactions from the palm oil industry and government representatives from Indonesia and Malaysia. However, the sustainability criteria are also opposed by many NGOs that criticize the directive for insufficient coverage or methodology or even challenge the impact of sustainability criteria and certification in general.

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<sup>4</sup> As Malaysia lacks land for massive future plantations, the expansion plans focus mainly on Indonesia, however, with a high dominance of Malaysian capital. Currently, about 40% of the Indonesian palm oil industry is led by Malaysian companies.

<sup>5</sup> Second-generation agrofuels are produced from waste, non-food cellulosic material or ligno-cellulosic material and count double towards the 10% target.

## A Contested Terrain – Sustainability Criteria and Palm-Based Biodiesel

The most important criteria to guarantee sustainability for agrofuels are summarized in Article 17 of the RED. Accordingly, an important criteria for the allowance of agrofuels against the target, including major tax incentives, are greenhouse gas (GHG) emission savings from biodiesel or ethanol that “shall be at least 35%” (EU 2009: Art. 17(2)). This paragraph is extremely important for trade relations between the EU and South East Asia as the default value for palm-based biodiesel is set below this guideline at 19%. In the last years, government representatives from Indonesia and Malaysia, palm oil growers and promotion bodies as well as major biodiesel companies from South East Asia (Neste Oil, Wilmar International etc.) have tried to lobby the EU for the recognition of higher GHG emission savings for palm-based biodiesel to assure long-term export possibilities<sup>6</sup>. For the biodiesel producers in the region that have set up facilities with regard to an anticipated demand in Europe, the RED is a major reference point and key to their strategies. As Neste Oil, a Finnish biodiesel company with the largest biodiesel facility in the world in Singapore confirms: “*At the moment, all our resources are focused to the EU and US market*” (interview with Neste Oil, 01/06/11). Despite the fact that some major biodiesel producers in the meantime reached the goal of certifying their palm-based biodiesel for the requirements of the RED which questions the effectiveness of the sustainability criteria in general, the Malaysian Palm Oil Council (MPOC) still sees a discrimination of “their” vegetable oil:

We have met all the requirements imposed on us by the European biofuel requirements and the research has been done to overcome all these limitations [but] they don't impose the same limitations on European oils, this is what we call green protectionism [...]. They want only the funding subsidy to benefit the local, so they have erected through the RED a lot of specific barriers for palm oil as a biofuel (interview with MPOC, 13/06/11).

The Indonesian Palm Oil Council (IPOC) argues in a similar way: “*The truth is, they want to protect their product in not buying palm oil, which is much cheaper, that's it. This is political trade*” (interview with IPOC, 13/07/11).

Another criterion, basically regulated in the RED, is the exclusion of agrofuels grown on land that used to be primary forest, protected area or highly biodiverse grassland (EU 2009: Art. 17(3)). Especially the definition of biodiverse grassland and the requested demand to plant on degraded land is still contested. Major players involved in the discussion in South East Asia argue that Indonesia, Malaysia and

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<sup>6</sup> Although Indonesia and Malaysia focus on national biofuel policies as well, especially the high subsidies for fossil fuels in these countries makes the production of biodiesel for the domestic market economically less viable at the moment.

the EU do not necessarily share the same definition of these concepts which may lead to confusion for certification (interview with Neste Oil, 01/06/11, interview with RSPO Indonesia, 18/07/11).

An even bigger problem highlighted by scientists and environmental NGOs alike is the exclusion of indirect land-use change (ILUC) as a criterion for sustainability. Whereas direct land-use changes are related to deforestation of primary forests or peat swamps for the production of agrofuels, ILUC occur when the production of food and animal feed is displaced by the production of agrofuels and has to spread to other land areas, in short the competition for land is increasing. Several studies have shown that ILUC is a big problem with regard to agrofuels that paradoxically might lead to a major increase in GHG emissions rather than a saving (Arima et al. 2011, Bowyer 2010, Searchinger et al. 2008). Within the RED framework, the European Commission is requested to “develop a concrete methodology to minimize greenhouse gas emissions caused by indirect land-use changes” (EU 2009: (85)). However, just recently EU’s climate and energy officials decided to exclude criteria for ILUC at least until 2017 in an attempt to protect existing investments (Reuters 2011) and therefore truckled to the interests of the industry.

Furthermore and quite interestingly, the RED widely ignores social impacts with regard to sustainability although research has shown major problems with rising food prices, degrading working conditions, human rights abuses, and land conflicts. In this context, the European Commission is only asked to report every two years to the Parliament and the Council about labor disputes or land right issues, however, social sustainability is not part of the evaluation of eligibility of agrofuels towards the target (EU 2009: Art. 17 (7)).

### **Certification of Agrofuels – RSPO to Guarantee Sustainability?**

In order to guarantee the sustainability of agrofuels, every EU member state has to use certification bodies or introduce national laws. The German-led *International Sustainability & Carbon Certification* (ISCC) or the international *Roundtable on Sustainable Biofuels* (RSB) are examples for such certification systems.

Another certification system, especially created for the certification of palm oil, is the *Roundtable on Sustainable Palm Oil* (RSPO), initiated by Unilever, WWF, and the Malaysian palm oil industry in 2002 (Pichler 2010: 189). In brief, RSPO is a voluntary and business-to-business initiative representing the palm oil industry (growers, manufacturers, retailers, banks) as well as environmental and social NGOs (RSPO 2009a). Although the certification body was created for the promotion of sustainable palm oil for food and cosmetics in 2002, the RSPO is currently working on voluntary additional criteria to fulfill the EU sustainability requirements for agrofuels. Two working groups were set up in 2008 and 2010 to develop a calculator for GHG emissions and prove saving above 19% (interview

with RSPO Indonesia, 18/07/11). However, since the formal establishment of the RSPO in 2004, the initiative has been highly criticized for several reasons and many experts doubt that the roundtable can guarantee a trend towards sustainability within the palm oil business:

Firstly, a major critique is the voluntary character of the roundtable. Accordingly, companies can choose whether or not to comply with sustainability and certification under the RSPO. In addition, a membership is not equivalent to a pressure for certification, meaning that RSPO members can adorn with a membership but choose with which plantations they apply for certification and which plantations stay within the “normal” national regulations.

Secondly, especially NGOs and social movements criticize the business-to-business format of the initiative, meaning that companies themselves decide on the rules they have to follow. *“RSPO is established by the investors, so no wonder that the regulations accommodate what the investors want”* (interview with Walhi West Kalimantan, 30/06/11), a representative of an environmental NGO in Indonesia describes the problem. As decisions are made by consensus, companies can always block progressive and alternative proposals and often leave NGOs with only marginal improvements.

Thirdly, a major problem arises with the certification of small-scale farmers in the palm oil business (smallholders). Accordingly, at the moment only private companies have finished the certification process and earn the price premium for the product. Although, the RSPO makes an effort to certify smallholders it faces major challenges with regard to their organizational structure, especially for independent smallholders<sup>7</sup>. Smallholders are scattered all around Indonesia and Malaysia and still lack organizations that represent and defend their interests and would guarantee a participatory approach for certification. As it would be far too expensive to certify individual farmers and their small pieces of land,

the challenge is quite big on the organization, on the institutional capacity of the independent smallholders. Most of the time, they are not organized in one body, so it's quite difficult if we want to make them certified unless they are organized in one organization. This organization can act as the internal control system, for example (interview with RSPO Indonesia, 18/07/11).

According to Sawit Watch, an NGO that works on the social impact of palm oil in Indonesia, such political organizations (for example in form of a union or similar association) are crucial, also beyond the certification efforts of RSPO. They could represent the farmers' interests in price negotiations as well as disputes for seeds, fertilizer or technical equipment because currently and without any proper political

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<sup>7</sup> Unlike contract farmers, independent smallholders are not contractually *“bound to any particular mill or any particular association”* (RSPO 2009b) and are therefore free to choose their form of land-use (including the crops they want to plant), their distribution channels as well as their form of management.



representations, smallholders are in an unequal bargaining position, both with private enterprises and state representatives (interview with Sawit Watch, 20/07/11).

Finally, also RSPO members themselves pass criticism and question the unsatisfactory uptake of *Certified Sustainable Palm Oil* (CSPO), mainly due to a price premium of the product. In 2010, only 46% of the produced CSPO were sold (RSPO 2011) and even RSPO founder Unilever argued that it cannot pass the additional cost on to the consumer (interview with an RSPO advisor, 16/06/11), which reflects an absurd power constellation within the roundtable.

### **Certification to Deal with Sustainability?**

The focus on EU sustainability criteria and the RSPO has shown that certification is a major and increasingly the only way to deal with the complex issue of sustainability. According to Klooster, *“the certification of the environmental and social characteristics of a product’s production process is emerging as a significant transnational, nongovernmental, market-based approach to environmental regulation and development”* (2006: 541). As a market-based model, certification is one of the easiest ways to deal with sustainability as it reduces complex human-nature interactions and politicized natural resource management practices to definite figures and technical solutions. Certification *“spreads market relations, privileges the concerns of global elites, legitimates current patterns of consumption, and distracts from the need for more direct government regulation”* (ibid.: 543).

For agrofuels, the dominant method to deal with sustainability is the calculation of GHG emission savings of plant-based fuel compared to fossil fuel. The European agrofuel policy is a perfect example for a solution that clouds the deeper problems of our current mobility patterns. Agrofuels are meant to replace fossil fuels without questioning the basic idea of a motorized individual transport system for an ever growing population. Accordingly, symptoms of this transportation system (GHG emissions) are “cured” with questionable means whereas the root cause of the problem is ignored and investments in alternative pathways for mobility are neglected.

Once a progressive call for environmental justice brought up by social movements and civil society organizations, the concept of sustainability in the context of agrofuel policies is constricted to certification and technical disputes on how to measure GHG emission savings and land-use changes. The local conflicts on the ground, the people that are affected by displacement and degrading working conditions are more often than not left aside. In this context, certification bodies like the RSPO focus on conflict settlement but ignore the deeper reasons behind land conflicts and social problems that are mostly related to unequal land distribution in connection to delayed agrarian reforms as well as a lack of

recognition of customary land rights (interview with the consortium for agrarian reform in Indonesia, 12/07/11).

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